

## ABSTRACT

Static balancing of cable modems across upstream channels is made based on the channel's current bandwidth demand compared to a first and/or second CAC threshold level. If both threshold levels are exceeded, the  
5 modem is assigned to the channel having the lowest bandwidth demand.

After registration, predictive balancing modems according to whether an MTA is part of a given modem avoids concentration of modems having MTAs on certain channels while other channels serve only modems without MTAs.

10 Modems are also predictively balanced according to whether they have associated a DSA\_use\_history profile. Modems associated with certain subscribers may be balanced according to the time of day balancing is occurring based on the profile. Thus, light user's during working hours may be balanced as heavy user's at night if they typically download video content  
15 or use VoIP features during the evening.